USH 12/STH 29 Highway Safety Improvement Program project from 6th Street to 21st Street, Menomonie

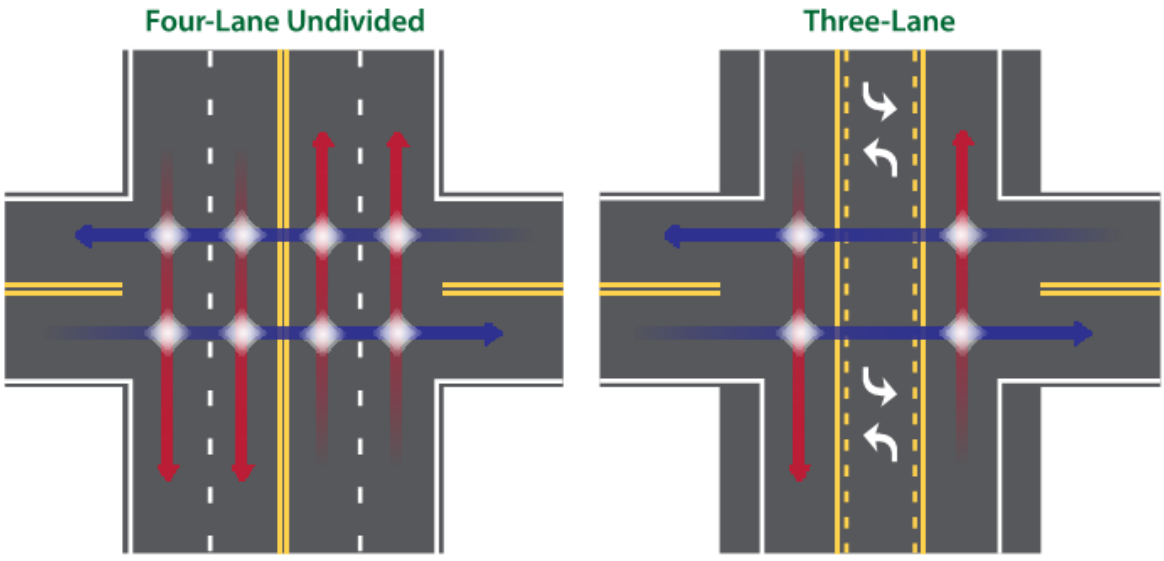
USH 12/STH 29 (Stout Road) from 6th Street to 21st Street in the City of Menomonie is an urban 4-lane arterial with traffic volumes ranging from around 12,000 to 18,000 vehicles per day. This segment of roadway has seen a high number of left turn rear-end crashes. High traffic volumes and speeds make pedestrians crossing Stout Road difficult. There is also a high rate of bicycle crashes.

The proposed treatment is to convert the four-lane facility to a 3-lane Two Way Left Turn Lane (TWLTL) - commonly referred to as a "Road Diet" - as the following conditions exist:

- High accident rates involving left turning movements, sideswipes, rear-ends, and crossing traffic
- The need for traffic calming (lowering the average through traffic speeds and reducing weaving)
- Pedestrian and bicyclist safety issues
- The existing four-lane facility operates similar to a 3-lane facility. The inside lanes operate as the left turn lane and the outside lanes operate as the through lane.

It is anticipated that this conversion to a TWLTL will reduce the crashes by as much as 30%[1]. Converting a four-lane undivided section to a three-lane cross section may result in less right of way impacts, less environmental impacts and less costs than converting to a wider TWLTL or raised median cross section. The conversion from four to three lanes will also allow the use of 6-foot-wide designated bike lanes in each direction.

Two-way left-turn lanes (TWLTLs) consist of a traffic lane in the median area, delineated by pavement marking strips. The lane serves as a separation for opposing lanes of travel and can be utilized as a detour route for maintenance work in adjacent lanes. The diagram below shows the difference in the amount of conflict points for a vehicle on a side street crossing Stout Road. Less conflict points correlates with a safer operation, which is one of the reasons why studies show that road diets reduce vehicle crashes.



1. Crash Reduction Factors for Traffic Engineering and ITS Improvements, 2008 study by Harkey et al.

Road Diets also allow easier and safer emergency vehicle movement, particularly during peak-hour periods. Below is a diagram showing what often happens with an emergency vehicle on a 4-lane section (before condition) and what typically occurs on a road diet section (after condition). A road diet opens a more predictable and practical path for emergency responders, which often translates to improved response times.

The operations were analyzed at the intersection of Stout Road and 9th Street. To maintain an acceptable level of service, the westbound left turn lane from Stout Road will be extended past the intersection of 5th Avenue. Due to the high northbound right turns from 9th Street on Stout Road, a short section of 4 lanes will remain to accommodate the heavy movement and allow for traffic to merge before the start of the 3-lane TWLTL cross section.

Two mid-block cross walks will be added with refuge islands in the median between 14th and 15th streets and between 18th and 19th streets. Rectangular Rapid Flashing Beacons will be installed at both locations to enhance safety and visibility of crossing pedestrian traffic.